

Amendments to the Claims

The following is a listing of the pending claims.

Claim 1 (Previously Presented): A system for detection of an object in an area in space, the system comprising:

- an imager for projecting an original holographic image onto the area;
- a reception device for sensing the imaged area, wherein the reception device is specifically balanced for a spectral range corresponding to the waves generated by the image, and wherein the imager is for projecting a reference beam and an object beam that interfere at a sensing surface of the reception device; and
- a computer in communication with the reception device and the imager, wherein the computer is for determining a difference pattern between an interference pattern for the original holographic image and an interference pattern for the image sensed by the reception device, and wherein the difference pattern is used to project a modified holographic image that represents a change in the original holographic image that results from an object interacting with the original holographic image.

Claim 2 (Previously Presented): The system according to claim 1, wherein the imager comprises a reflective solid state imaging device.

Claim 3 (Original): The system according to claim 1, wherein the reception device is a solid state sensing device.

Claim 4 (Previously Presented): The system according to claim 1, wherein the original holographic image represents one of an input terminal, a keyboard, a pointing device, a game, and a musical instrument.

Claims 5-12 (Canceled).

Claim 13 (Previously Presented): The system according to claim 1, wherein the imager comprises a transmissive solid state imaging device.

Claim 14 (Previously Presented): The system according to claim 1, wherein the sensor comprises a CCD video sensor.

Claim 15 (Previously Presented): The system according to claim 1, wherein the original holographic image comprises an image of a steering wheel.

Claim 16 (Previously Presented): A method comprising:

projecting an original holographic image from an imager onto an area in a space,
wherein projecting the image comprises projecting a reference beam and an
object beam;

sensing the imaged area with a reception device, wherein the reference beam
and the object beam interfere at a sensing surface of the reception device;
and
determining a difference pattern between an interference pattern for the original
holographic image and an interference pattern for the image sensed by the
reception device; and
modifying the original holographic image projected by the imager based on the
determined difference pattern, wherein the modification represents a change
in the original holographic image that results from an object interacting with
the original holographic image.

Claim 17 (Previously Presented): The method of claim 16, wherein:

the original holographic image represents a user input device for an object; and
the difference between the original holographic image and the interference
pattern for the image sensed by the reception device is caused by user
interaction with the image of the user input device.

Claim 18 (Previously Presented): The method of claim 17, wherein the user input
device comprises a keyboard.

Claim 19 (Previously Presented): The method of claim 17, wherein the user input
device comprises a steering wheel.

Claim 20 (Previously Presented): The method of claim 16, wherein determining the difference pattern between the interference pattern for the original holographic image and the interference pattern for the image sensed by the reception device comprises using a feature space analysis to determine the difference pattern.

Claim 21 (Previously Presented): The method of claim 16, wherein determining the difference pattern between the interference pattern for the original holographic image and the interference pattern for the image sensed by the reception device comprises using a bit mapping to determine the difference pattern.